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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO.       |
|---|-------------|----------------------|-----------------------------|------------------------|
| 10/635,122  | 08/06/2003  | Duck-Chul Hwang      | 50602/P849                  | 2076                   |
| 23363 7590 08/09/2007<br>CHRISTIE, PARKER & HALE, LLP<br>PO BOX 7068<br>PASADENA, CA 91109-7068 |             |                      | EXAMINER<br>WEINER, LAURA S |                        |
|   |             |                      | ART UNIT<br>1745            | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>08/09/2007     | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/635,122 | Applicant(s)<br>HWANG ET AL. |  |
|                              | Examiner<br>Laura S. Weiner   | Art Unit<br>1745             |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 July 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 5-6, 8-11, 14-17, 22-23-26, 30-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 5-6, 8-11, 14-17, 22-23-26, 30-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7-2-07 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 5-6, 8-11, 14-17, 22-23-26, 30-34 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

3. Claims 1, 5-6, 8, 11, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yokoyama et al. (5,977,277).

Yokoyama et al. teaches in columns 2-3, an acrylic ester polymer including a copolymer of an acrylic ester selected from general formula (I) and a copolymer of at least one acrylic ester selected from general formula (I) and at least one compound selected from formula (II) and generally formula (V) to (VIII). Yokoyama et al. teaches in columns 15, that examples of the compounds represented by formula (VII) include glycerol trimethacrylate glycerol triacrylate, etc. Yokoyama et al. teaches in columns 23

Art Unit: 1745

and 49-50, a solid electrolyte comprising the polymer. Yokoyama et al. teaches in column 23, that a photosensitizer can be used.

4. Claims 1, 5-6, 8-11, 14-17, 22-23-26, 30-34 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (6,933,080).

Lee et al. teaches in column 2, a polymer electrolyte formed by curing a composition prepared by mixing a polymer of compounds of polyethylene glycol di(meth)acrylate (formula 1) and/or multi-functional ethyleneoxides (formula 2), one selected from Formulas 3 or 4 and an electrolytic solution containing a lithium salt and an organic solvent. Lee et al. teaches in columns 2-3, that the polymer electrolyte further includes a curing initiator such as dilauroyl peroxide, dibenzoyl peroxide, etc. in the range of 0.0001-10 parts by weight. Lee et al. teaches in column 7, a lithium-sulfur battery comprising a cathode, an anode, the polymer electrolyte and a separator.

5. Claims 1, 5-6, 8-11, 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto et al. (JP 2000319531, abstracts).

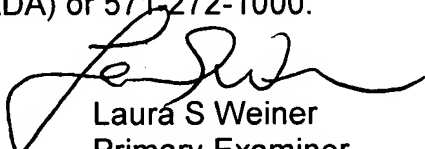
Yamamoto et al. teaches a battery comprising a polyelectrolyte comprising a thermosetting resin precursor comprising oligomeric epoxy resin acrylate (50), pentaerythritol triacrylate (8) and benzoyl peroxide 2 part mixed with 5 parts acrylonitrile-methacrylic acid copolymer, LiBF<sub>4</sub>, EC and PC.

Art Unit: 1745

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura S. Weiner whose telephone number is 571-272-1294. The examiner can normally be reached on M-F (6:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Laura S Weiner  
Primary Examiner  
Art Unit 1745

August 6, 2006